

Work Order ID 159669

Monday, April 17, 2017 12:53:25 PM

159669

PER CONCESSION 400000061786
U/R Page 1

Item ID: D4842-041 **POSITIVE RECALL** Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-692 Stop ***NS2***
Item Name: Lower Cutter Assembly

Start Date: 4/28/2017 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 5/1/2017 Req'd Qty: 6.00 ***6*** Customer:
Reference: SCHEDULED/U

Approvals: Process Plan: MA Date: APR 17 2017 Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D4842	<u>REV B U/R</u>	PER CONCESSION 400000061786	5.7/04/18						

110	Pick Kit	0.00							
110									
Packaging	Memo	0.48							
Packaging									

120		0.00							
120									
Small Fab	Memo	5.14							
Small Fab	Assemble as per dwg and apply loctite 598 on all faying surfaces.								
	A/R LOCTITE 598: <u>137353</u>								

130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.12							
Quality Control									

**MATERIAL CERTIFICATION
REQUIRED**

QC APPROVAL DAS 36 9-89
17/05/18
JUN 01 2017

* ARC must be created by dA

* ARC must contain concession Number

* All Parts must be identified w/ concession Number

* FAIR must be completed

POSITIVE RECALL
EFFECTIVE 17/04/18 AUTH 5
RELEASED 5 DATE 17/04/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 159669***159669***

Page 2

Monday, April 17, 2017 12:53:25 PM

Item ID: D4842-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-692 Stop ***NS2***
Item Name: Lower Cutter Assembly
Start Date: 4/28/2017 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 5/1/2017 Req'd Qty: 6.00 ***6*** Customer:
Reference: SCHEDULED/U

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>ack</u>	0.00							
140									
Packaging	Memo	0.06							
Packaging									
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.60							
Quality Control									

DAS 21 9-89 JUN 0 1 2017

DAS 21 9-89 JUN 0 1 2017

DAS 21 9-89 JUN 0 1 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

Picklist Print

Monday, April 17, 2017 12:53:25 PM

Page 1

Work Order ID: 159669

159669

Parent Item: D4842-041

D4842-041

Parent Item Name: Lower Cutter Assembly

Start Date: 4/28/2017

Required Date: 5/1/2017

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 13.04.30 NEW ISSUE DD VERF:JLM IPP
REV:B 13.11.01 AS PER DWG REV.B DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D4839-1

Manufactured No

Each 7.0000

12

D4839-1

Blade

**

161399X5

DAS 8-89

Location

Loc Qty

Loc Code

CCK128

7

157704

7

D4842-1

Manufactured No

Each 3.0000

6

D4842-1

Lower Cutter Deflector

**

3X B/5967

DAS 8-89

MAY 26 2017

Location

Loc Qty

Loc Code

CCK035

3

140905

3

D4842-3

Manufactured No

Each 8.0000

6

D4842-3

Lower Cutter Body, LH

**

4 X B/5967

DAS 8-89

MAY 26 2017

Location

Loc Qty

Loc Code

CCK129

2

158641

2

qrtn

6

140906

6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, April 17, 2017 12:53:25 PM

Work Order ID: 159669

159669

Parent Item: D4842-041

D4842-041

Parent Item Name: Lower Cutter Assembly

Start Date: 4/28/2017

Required Date: 5/1/2017

Start Qty: 6.00

Required Qty: 6.00

D4842-4

Manufactured No

Each

4.0000

6

D4842-4

Lower Cutter Body, RH

**

DAS

6

9-89

MAY 26 2017

Location

Loc Qty

Loc Code

CCK129

2

158640

2

qrtn

2

142317

2

4 XB/59677

2

MS21042L08

Purchased

No

Each

422.0000

36

MS21042L 08

Nut

**

DAS

6

9-89

MAY 26 2017

Location

Loc Qty

Loc Code

GA

394

m135274

18

m135978

376

ST303

28

m137061

28

137391

MS27039-08-19

Purchased

No

Each

304.0000

36

MS27039-08-19

Screw

**

DAS

6

9-89

MAY 26 2017

Location

Loc Qty

Loc Code

GA

50

m135948

50

over006

100

m137061

100

ST277

154

m136851

54

m136975

50

m137178

50

135865X5

137320 x18

137361 x13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐							

Picklist Print

Monday, April 17, 2017 12:53:25 PM

Page 3

Work Order ID: 159669

159669

Parent Item: D4842-041

D4842-041

Parent Item Name: Lower Cutter Assembly

Start Date: 4/28/2017

Required Date: 5/1/2017

Start Qty: 6.00

Required Qty: 6.00

NAS1149FN832P

Purchased

No

Each

1,498.000

72

NAS1149FN832P

989 DAS

Washer

MAY 26 2017

Location

Loc Qty

Loc Code

GA

323

M135058

232

M136182

91

ST263

1175

M136866

1175

135603X11

137412X61

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval				
Description Work Order Deviation				Disposition							
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due		☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		FAULT CATEGORY ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes		☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
				☐ OTHER : _____							

Supplier NC N.	AWC 006/01	Date	02.02.2017	AW	400000061786	Purchase Order	4801373666
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DEFECT 0001**FO01****Wrong dimensions**

attachment

 AgustaWestland A Finmeccanica Company		CONCESSION				Pag. 1 of 2									
Manuf. Doc. N.	AWC 006	Date		AW Doc. N.		Purchase Order	4800671131 4800722284 4801147764 4801186922 4801218851 4801288960 4801373666								
AW P/N	6F9540V00231	S/N / Batch Number	B109195 Qty. (1) B133355 Qty. (2) B134314 Qty. (1) B134315 Qty. (1) B134842 Qty. (1) B137492 Qty. (1) B137355 Qty. (2) B137816 Qty. (1) B137818 Qty. (1) B137817 Qty. (1) B140379 Qty. (3) B140381 Qty. (2) B147002 Qty. (2) B150786 Qty. (1)	Grade	A	AW Drawing Issue	B								
Description	Lower Cutter Assy			Batch Q.ty	20	Defective Q.ty	20								
Manufacturer	Dart Aerospace			Model	AW169										
Defect(s) Description															
Leonardo has informed Dart that there are interference issues installing the lower cable cutter D4842-041 onto the Leonardo interface bracket. <table border="1" style="width: 100%;"> <tr> <th>Department</th> <th>Inspector</th> <th>Signature</th> <th>Date</th> </tr> <tr> <td>Quality</td> <td>DAS 16 9-89</td> <td></td> <td>2017/02/01</td> </tr> </table>								Department	Inspector	Signature	Date	Quality	DAS 16 9-89		2017/02/01
Department	Inspector	Signature	Date												
Quality	DAS 16 9-89		2017/02/01												
Defect(s) Cause															
The Lower Cutter body has a dimension of 10.9 +0.25/-0.00 mm. This dimension was reported as part of the approved FAI and has been met with all delivered product. <table border="1" style="width: 100%;"> <tr> <th>Department</th> <th>Inspector</th> <th>Signature</th> <th>Date</th> </tr> <tr> <td>Quality</td> <td>DAS 16 9-89</td> <td></td> <td>2017/02/01</td> </tr> </table>								Department	Inspector	Signature	Date	Quality	DAS 16 9-89		2017/02/01
Department	Inspector	Signature	Date												
Quality	DAS 16 9-89		2017/02/01												
Corrective Action															
In order to mitigate the interference issue for Leonardo, Dart is proposing to remove sufficient material to make the overall installation dimension at 22.15 mm +0.05/-0.35. <table border="1" style="width: 100%;"> <tr> <th>Department</th> <th>Inspector</th> <th>Signature</th> <th>Date</th> </tr> <tr> <td>Quality</td> <td>DAS 16 9-89</td> <td></td> <td>2017/02/01</td> </tr> </table>								Department	Inspector	Signature	Date	Quality	DAS 16 9-89		2017/02/01
Department	Inspector	Signature	Date												
Quality	DAS 16 9-89		2017/02/01												

For "MANUFACTURER" SUPPLIERS ONLY
ENGINEERING evaluation and proposal

Engineering evaluation

Investigation report

n.....

Compliance report

n.....

Dart's position is that this change will not impact the structural substantiation presented in Report DA169-4 for the lower cutter body since this is not a section with the lowest margin. Therefore removing 0.3 mm max from each part will not impact the structural integrity of the lower cutter assembly. The dimension on the cutter body part D4842-3/-4 will be 10.80 +0.00/-0.200.

The dimension change of the two lower cutter body parts mating, plus the sealant, anodize and primer layers will be defined as a dimension of 22.15 +0.05/-0.35 mm on the assembled lower cutterbody and will be incorporated into the D4842 drawing for inspection.

	Defect effects		Limitations
	Before any repair	After any repair	
Safety	☐ yes	☐ yes ☐ no	☐ yes (specify) ☒ no
Life	☐ yes	☐ yes ☐ no	
Strength	☐ yes	☐ yes ☐ no	
Performances	☐ yes	☐ yes ☐ no	
Interchangeability	☐ yes	☐ yes ☐ no	
Reliability	☐ yes	☐ yes ☐ no	
Maintainability	☐ yes	☐ yes ☐ no	
Installability	☒ yes	☐ yes ☒ no	
Testability	☐ yes	☐ yes ☐ no	
Only aspect	☐ yes	☐ yes ☐ no	
Repair Proposal		Decision to use	
None		☐ Use repaired with specific repair ☐ Use repaired with known repair ☐ Use as is ☐ Use repaired for tests (see Limitations) ☐ Use as is for tests (see Limitations) ☒ Scrap	
Concession Classification	☒ Major ☐ Minor		Submit after repair
			☐ yes ☐ no